PSEUDOTSUGA MENZIESII / GAULTHERIA SHALLON / POLYSTICHUM MUNITUM

Douglas-fir / salal / sword fern

Abbreviated Name: PSME/GASH/POMU

Sample size = 20 plots

DISTRIBUTION: This association occurs sporadically in much of the Puget Trough. It appears to be most abundant in the South Puget Sound prairie landscape of southwestern Pierce and Thurston counties. It is also known from Mason County, Cowlitz County, and islands in western Skagit County. It probably occurs elsewhere in the Puget Trough and, depending on the resolution of classification issues, possibly elsewhere in lowland western Washington and western Oregon.

GLOBAL/STATE STATUS: GNRS3S5Q. We are uncertain at this point how best to classify this unit on a statewide basis (see Classification Notes). Therefore its rank is relatively uncertain. If we were to consider it strictly a Puget Trough dry site type, its rank would be relatively higher (vulnerable) because of few good-quality occurrences. If we consider it to include naturally-regenerated second-growth in a broader area, it would be more secure. As for the Puget Trough, most occurrences have been significantly degraded by logging, and development is a threat.

ID TIPS: Dominated by Douglas-fir, with little to no western hemlock, western redcedar, or grand fir present. Salal occupies >10% cover and sword fern >5% cover. Presence and abundance of dry/warm site indicators like oceanspray, beaked hazelnut, western fescue, bigleaf sandwort, and serviceberry can help distinguish this type from related early-seral variants of Douglas-fir-western hemlock types.

ENVIRONMENT: These sites are moderately dry to mesic and appear to be relatively nutrient-rich. Sites are flat to fairly steep, with aspect more often southerly to westerly. The plots represent a variety of slope positions, including plateaus/plains. Parent materials are variable, including glacial till, glacial outwash, and various bedrock (including ultramafics). Soil textures are loam to loamy sand, usually with abundant coarse fragments.

Precipitation: 27-79 inches (mean 43)
Elevation: 120-1500 feet
Aspect/slope: S to W, various/ 0-74% (mean 25)
Slope position: plain, mid, upper, lower, short

Vegetation Composition Table (selected species):
Con = constancy, the percent of plots within which each species was found;
Cov = cover, the mean crown cover of the species in plots where it was found;
+ = trace (< 0.5% cover).

Trees	Kartesz 2005 Name	Con	Cov
Douglas-fir	Pseudotsuga menziesii var. menziesii	100	77
bigleaf maple	Acer macrophyllum	40	11
cascara	Frangula purshiana	40	2
Shrubs and Dwarf-shrubs			
salal	Gaultheria shallon	100	43
trailing blackberry	Rubus ursinus ssp. macropetalus	85	8
oceanspray	Holodiscus discolor	80	14
dwarf Oregongrape	Mahonia nervosa	80	10
baldhip rose	Rosa gymnocarpa	75	3
red huckleberry	Vaccinium parvifolium	75	2
beaked hazelnut	Corylus cornuta var. californica	70	20
orange honeysuckle	Lonicera ciliosa	65	3
common snowberry	Symphoricarpos albus var. laevigatus	55	10
spreading snowberry	Symphoricarpos hesperius	40	7
serviceberry	Amelanchier alnifolia	30	3
Graminoids			
Coast Range fescue	Festuca subuliflora	55	2
western fescue	Festuca occidentalis	35	2
Columbia brome	Bromus vulgaris	30	2
Forbs and Ferns			
sword fern	Polystichum munitum	100	10
bracken fern	Pteridium aquilinum var. pubescens	70	7
sweet-scented bedstraw	Galium triflorum	60	2
western starflower	Trientalis borealis ssp. latifolia	60	2
twinflower	Linnaea borealis ssp. longiflora	50	5
big-leaved sandwort	Moehringia macrophylla	40	1
rattlesnake-plantain	Goodyera oblongifolia	40	+
licorice fern	Polypodium glycyrrhiza	30	1

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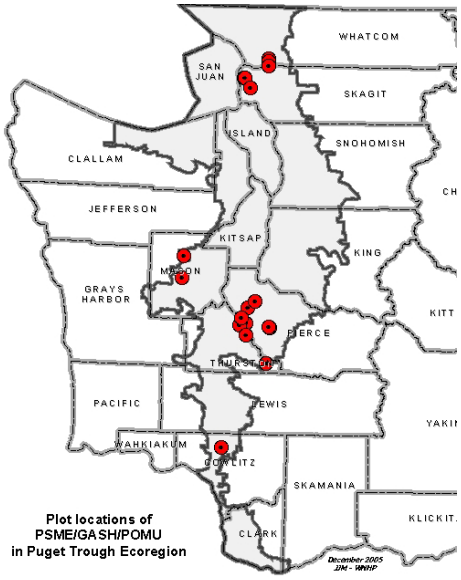

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Soil series: Everett, Dystric xerochrepts, Seaquest, Hesson, Xerochrepts, Alderwood, Guemes, Andic xerochrepts, Fidalgo, Rainier, Pheeny, Cagey, Typic udorthents

DISTURBANCE/SUCCESSION: Fire is the primary natural disturbance. The few old-growth stands show evidence of past low- to moderate-severity fire (underburns). Most stands are young or mature in age, and many of our samples were disturbed by past logging activities (especially on Fort Lewis). Most stands are located in landscapes that formerly supported prairies or savannas maintained by Native American burning practices. It is probable that some of these stands could support more shade-tolerant conifers in the absence of long-term disturbance.

VEGETATION: Canopy dominated by Douglas-fir or occasionally co-dominated as well by bigleaf maple. Douglas-fir is sometimes regenerating under its own canopy in these stands. Salal dominates or co-dominates the understory. Oceanspray and/or beaked hazelnut usually form a prominent to co-dominant tall shrub layer. Trailing blackberry (an increaser with disturbance), dwarf Oregongrape, and common snowberry are often prominent in the shrub or dwarf-shrub layers. Other frequent shrubs and vines are baldhip rose, red huckleberry, and orange honeysuckle. Sword fern is always prominent to dominant in the herb layer; bracken fern is often prominent. Sweet-scented bedstraw, western starflower, Coast Range fescue, and twinflower are frequently occurring herbs.

CLASSIFICATION NOTES: First described by Chappell (2001). Without a better sample of naturally-regenerated post-logging stands in western Washington lowlands, it is difficult at this point to be certain about the classification of this unit. It may very well be part of a larger association that includes many young seral stands. NatureServe (2005) does not recognize this association, but it is slated to be included in the future in a new global PSME/GASH-MANE/POMU association, which is broader in concept than this Puget Trough unit.

MANAGEMENT NOTES: These sites appear to be moderately productive for tree growth. Stands previously disturbed may be good candidates for selective logging techniques. Non-native English ivy (*Hedera helix*) may be a threat on some of these sites.

Chappell, C.B. 2006. Upland plant associations of the Puget Trough ecoregion, Washington. Washington Department of Natural Resources, Natural Heritage Program, Olympia, WA. [http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf].